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"AS-BUILT" SPECIFICATION FOR THE ERIM TAPE CONVERSION  
TO LARSYS II PROGRAM  
(ECTL2)

Job Order 71-695

(TIRF 76-0057)

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For

EARTH OBSERVATIONS DIVISION



*National Aeronautics and Space Administration*  
**LYNDON B. JOHNSON SPACE CENTER**  
*Houston, Texas*

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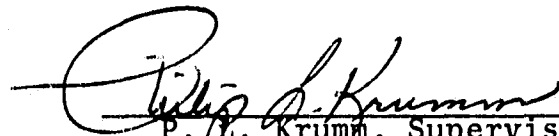
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TO LARSYS II PROGRAM  
(ECTL2)  
Job Order 71-695  
(TIRF 76-0057)

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## 1. SCOPE

This specification establishes the baseline configuration of "ECTL2". This program was developed in response to TIRF 76-0057 "ERIM Tape Conversion to LARSYS II."

## 2. APPLICABLE DOCUMENTS

- TIRF 76-0057 - ERIM Tape Conversion to LARSYS II - August 18, 1976
- LEC-9369 - Technical Memorandum Project Development Plan for the ERIM Tape Conversion to LARSYS II Program - September 3, 1976
- A.D. 63-1327-1693-01 - ERIM Tape Conversion

## 3. SYSTEM DESCRIPTION

### 3.1 HARDWARE DESCRIPTION

N/A

### 3.2 SOFTWARE DESCRIPTION

The program "ECTL2" is designed to take a four file input tape in ERIM format and under option create a two or four file output tape in LARSYS II format.

#### 3.2.1 MAIN PROGRAM

ECTL2 consists of this main routine and one subroutine (3.2.2). This main routine handles all functions of the program except spacing of the input tape.

##### 3.2.1.1 Linkages - None

#### 3.2.1.2 Interfaces - None

#### 3.2.1.3 Inputs

Input to this program consists of a tape in ERIM format and responses to program queries on the computer terminal.

#### 3.2.1.4 Outputs

Output from this program is a magnetic tape in LARSYS II format.

#### 3.2.1.5 Storage Requirements

025174<sub>7</sub>

#### 3.2.1.6 Description

The main routine functions in the following manner:

- a. Query user for input parameters
- b. Format and write output header record
- c. Space input tape to desired start line
- d. If format 2 is indicated go to h
- e. Read and sort input file
- f. Combine next input file with saved one reformat and write to output tape.
- g. If finished two sets exit program, otherwise go to c.
- h. Read input tape, reformat data and write to output tape
- i. If finished four files exit program, otherwise go to h.

#### 3.2.1.7 Flow Charts

See Appendix A.

#### 3.2.1.8 Listing

See Appendix B.

### 3.2.2 SUBROUTINE SPACE

This subroutine is used to read the input tape and space forward a requested number of files.

#### 3.2.2.1 Linkages

None

#### 3.2.2.2 Interfaces

None

#### 3.2.2.3 Inputs

Input to this subroutine consists of the number of records to be spaced forward on the input tape and the address of the buffer in which to place the data.

#### 3.2.2.4 Outputs

Output from this subroutine consists of an EOF indicator on/off and the data from the record specified by the number requested.

#### 3.2.2.5 Storage Requirements

272<sub>7</sub>

#### 3.2.2.6 Description

This subroutine simply calls the tape I/O read routine the number of times specified in the calling sequence to SPACE and turns on an EOF indicator if one is encountered during the reading process.

#### 3.2.2.7 Flow Charts

See Appendix C.



### 3.2.2.8 Listing

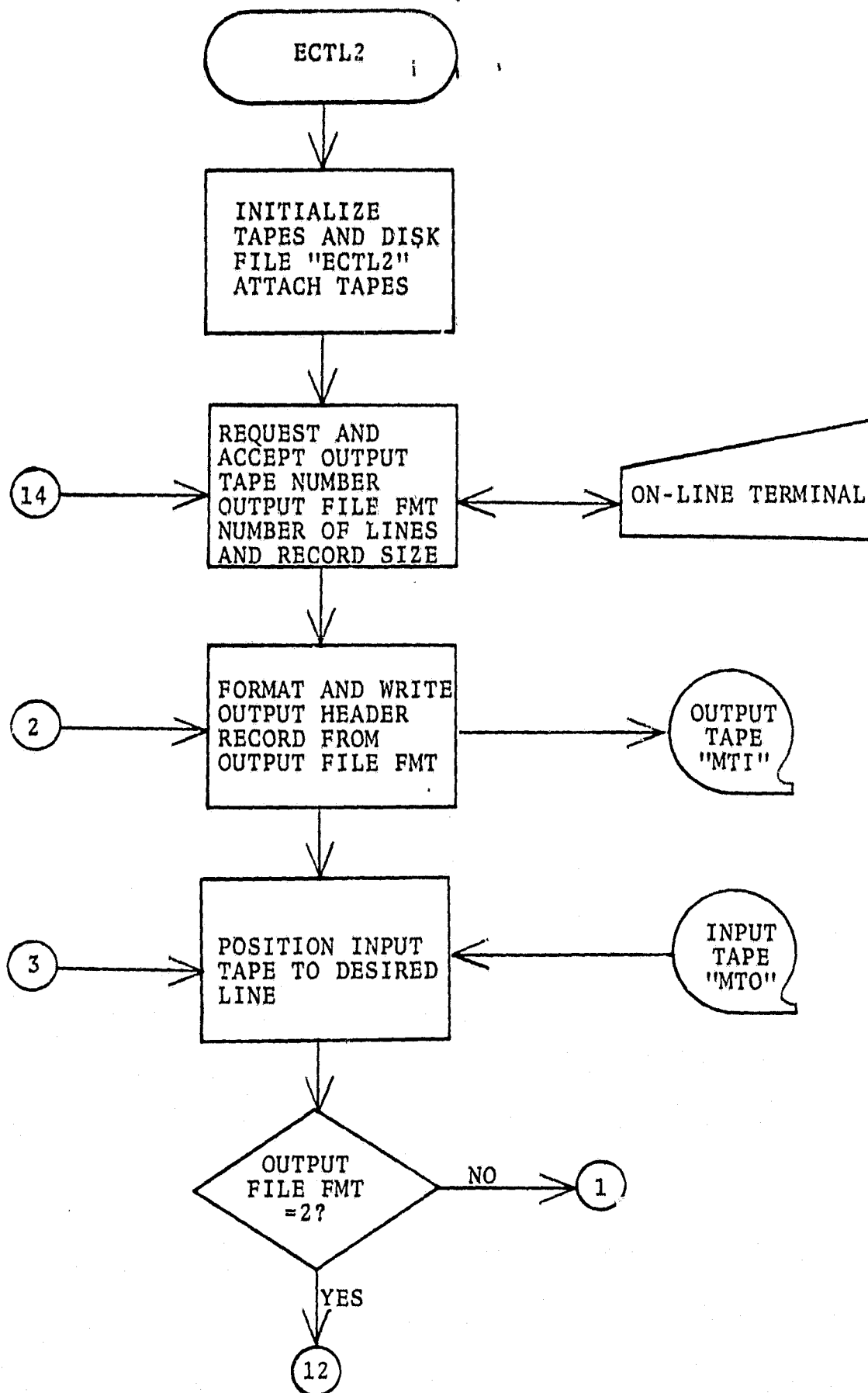
See Appendix D.

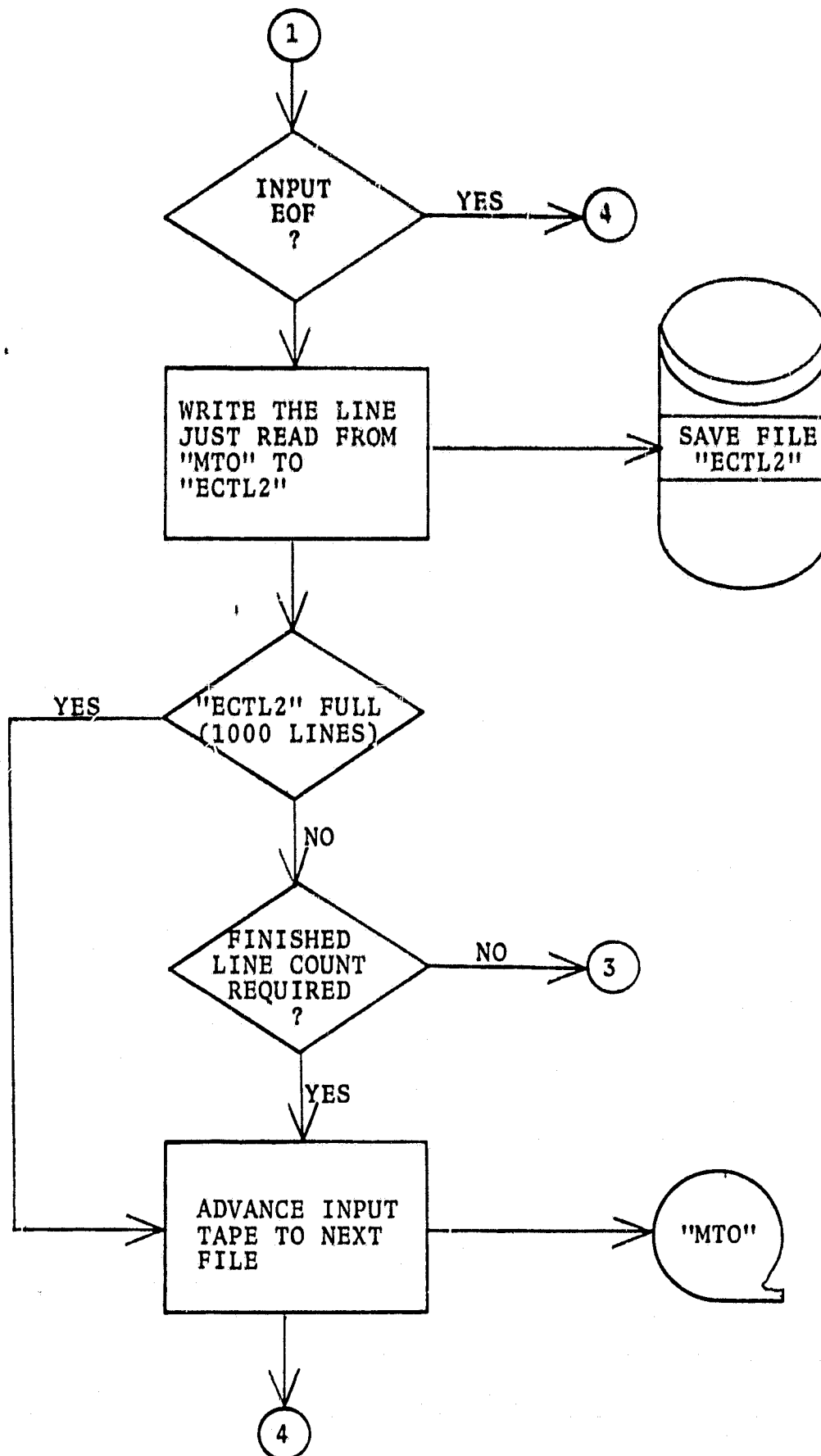
## 4. OPERATION

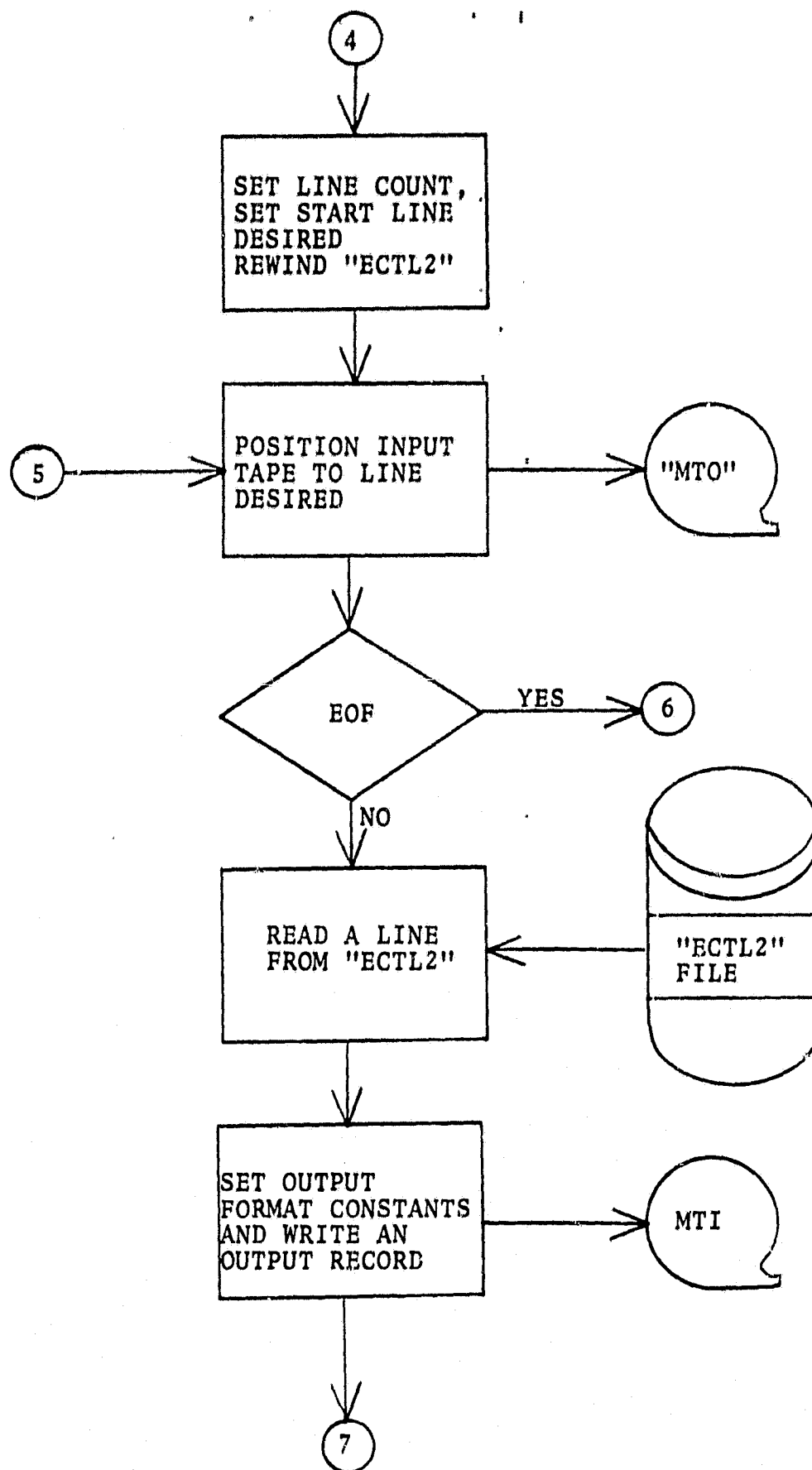
### 4.1 USER DOCUMENTATION

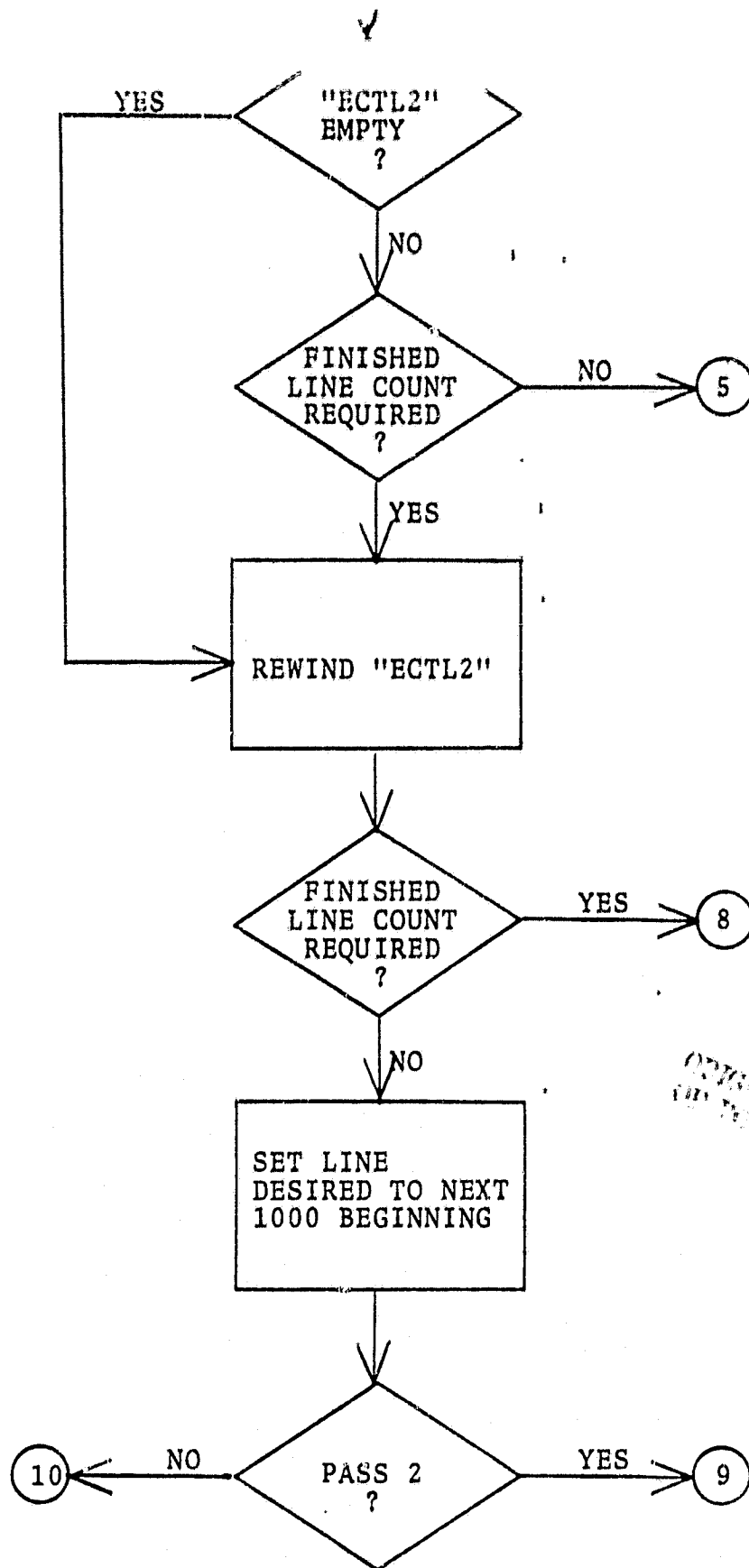
- a. Insure a clean scratch disk
- b. Mount input tape on unit MTI and a new scratch tape for output on unit MTO
- c. Sign on the system
- d. Answer queries from terminal
- e. Observe output tape being written
- f. After processing is complete dismount both tapes and sign off the system.

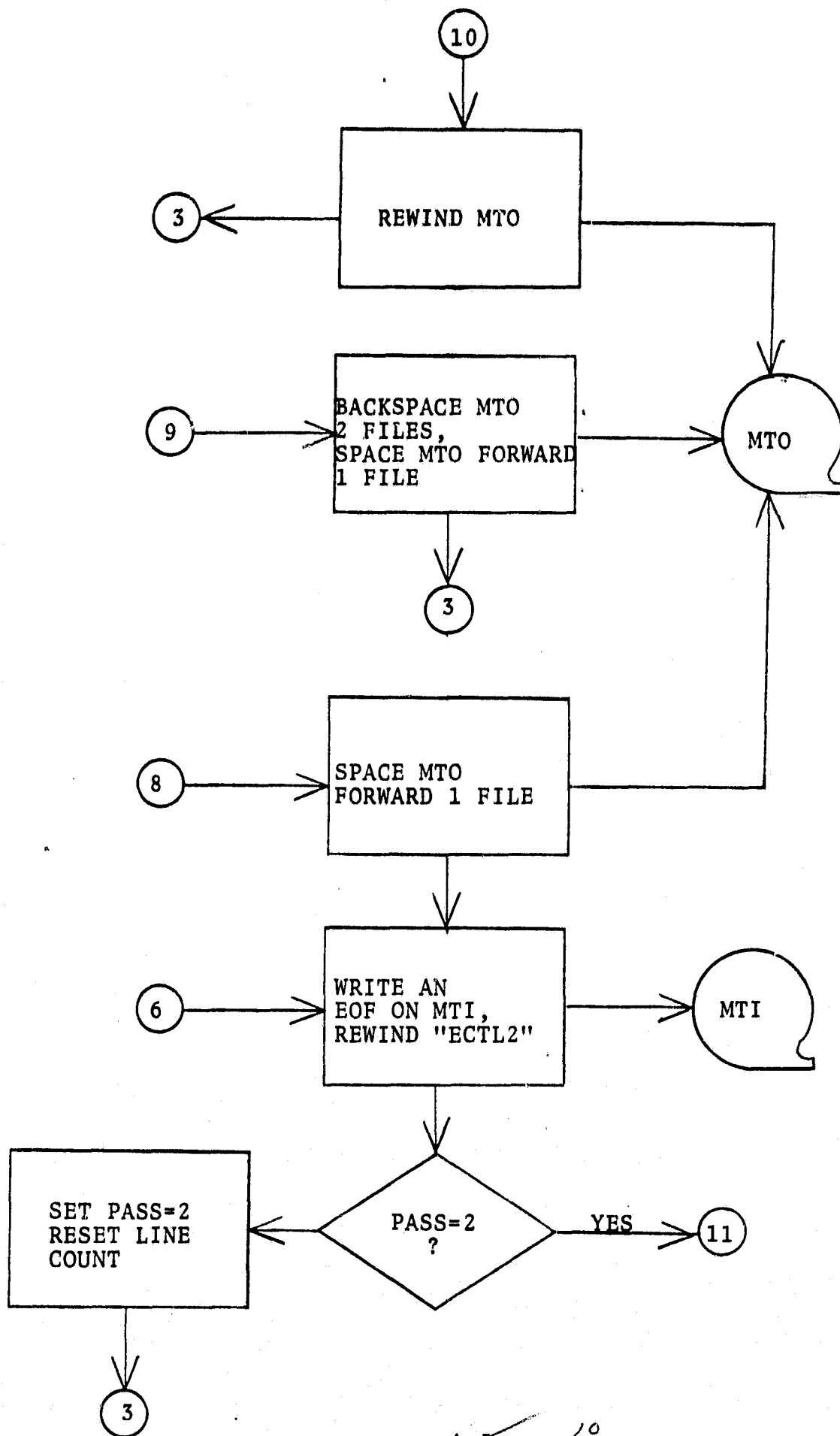
APPENDIX A

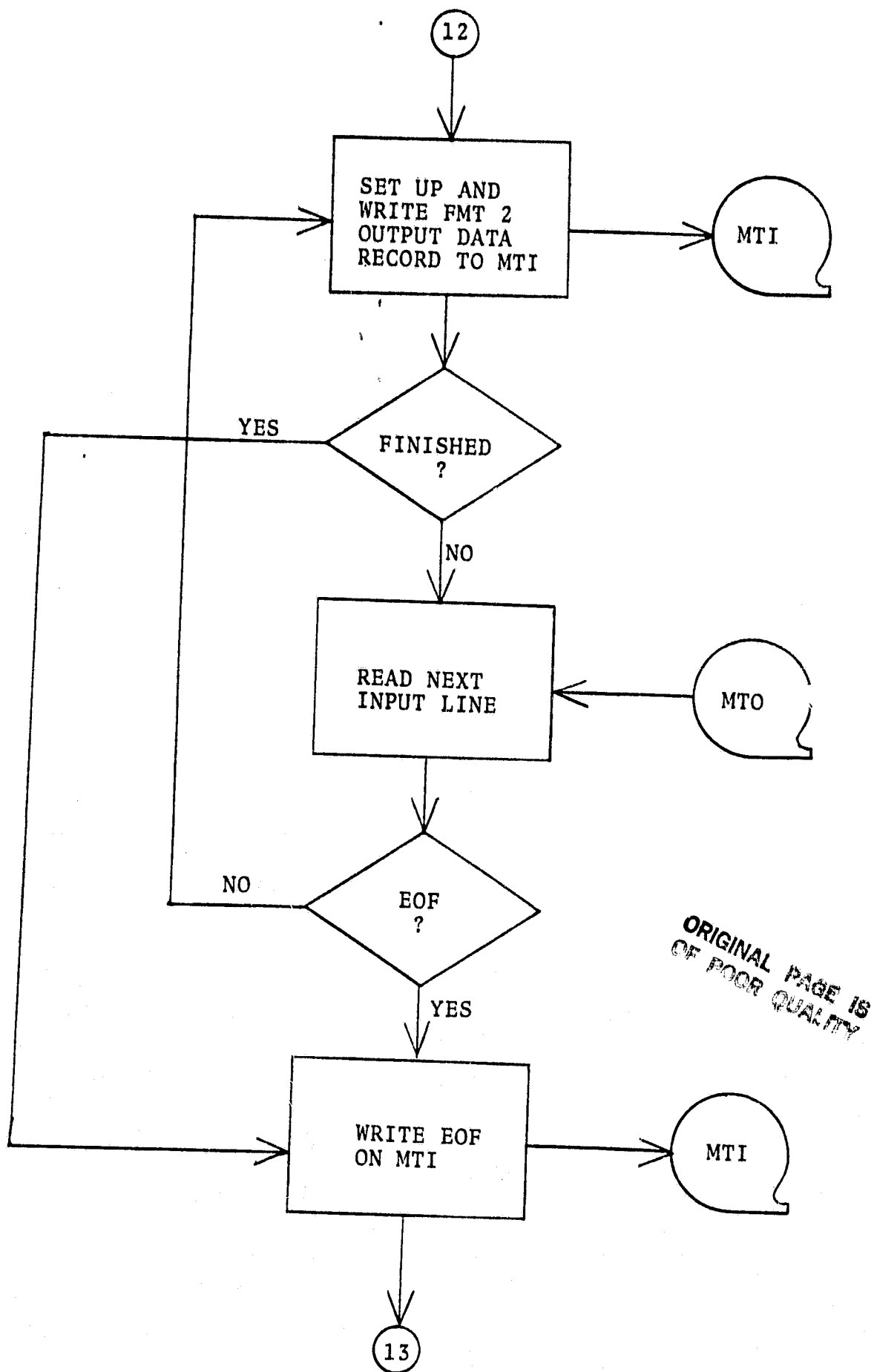






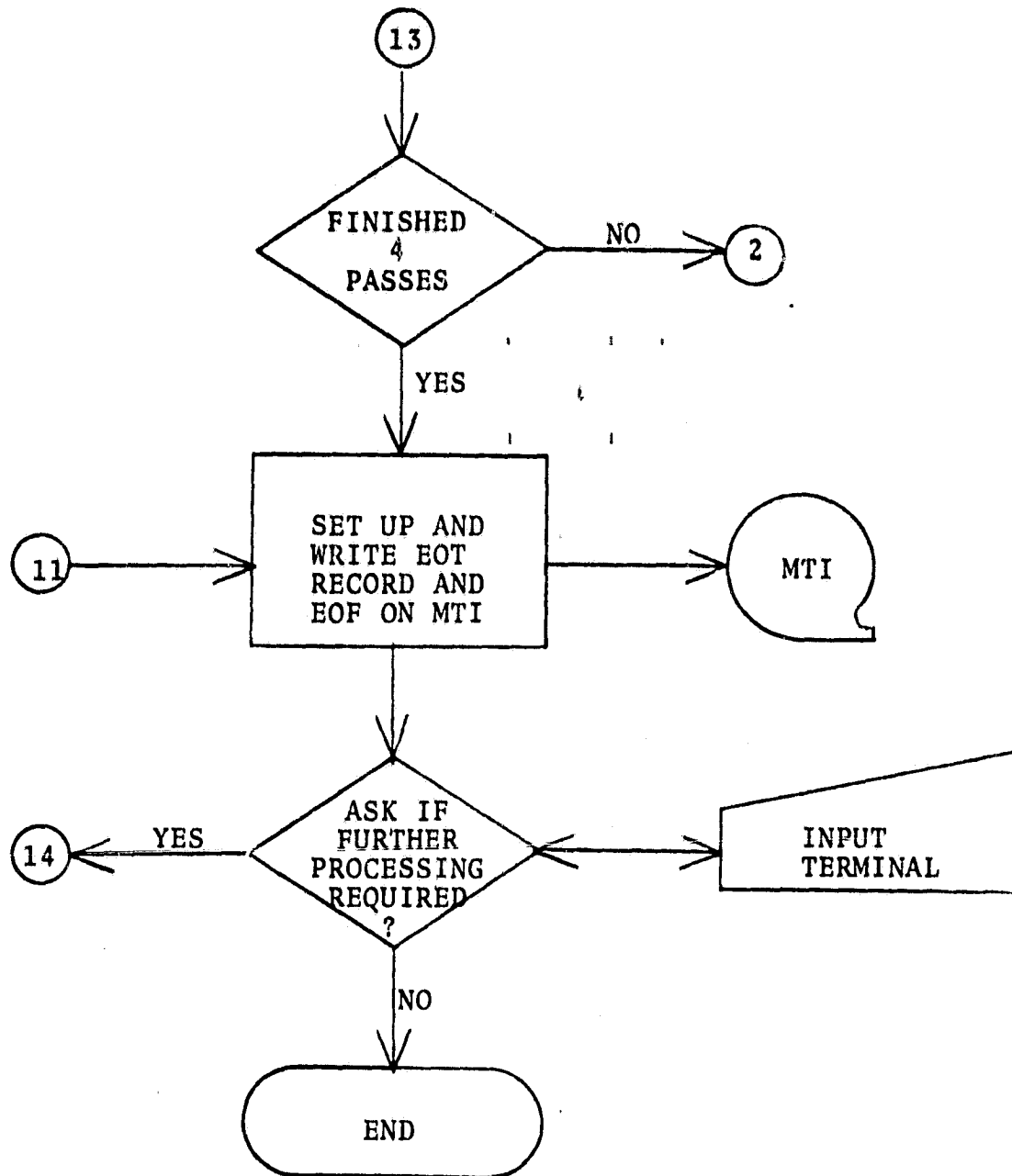






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APPENDIX B

```

0001      PROGRAM ECTL2
0002      IMPLICIT INTEGER (A-Z)
0003      COMMON /STATUS/IRHC(2)
0004      COMMON /WORDS/RECSZ,FLAG
0005      DIMENSION HEAD(60),HEAD0(200),RECIN(1000),RECOUT(2000)
0006      DIMENSION FOTR(200),DSKREC(1000)

      C
      C
      C
0007      CALL TINIT (8,0,0)
0008      CALL TINIT (9,0,1)
0009      CALL ASSIGN (7,'DSK2IECTL2',0)

      C
      C
0010      CALL TATCH (8)
0011      CALL TATCH (9)

      C
      C
      C
0012      1  TYPE 100
0013      100 FORMAT (1H0,'OUTPUT TAPE NUMBER = ')
0014      ACCEPT 200, OUTTN
0015      200 FORMAT (I4)
0016      10  TYPE 110
0017      110 FORMAT (1H0,'OUTPUT FILE FORMAT = ')
0018      ACCEPT 210, OFF
0019      210 FORMAT (I1)
0020      IF (OFF .LT. 1 .OR. OFF .GT. 2) GO TO 10
0021      20  TYPE 120
0022      120 FORMAT (1H0,'LYNES = ')
0023      ACCEPT 220, FROM,A,TO
0024      220 FORMAT (I4,A1,I4)
0025      LINEC = TO-FROM+1
0026      IF (LINEC .LT. 1) GO TO 20
0027      TYPE 130
0028      130 FORMAT (1H0,'RECORD SIZE IN WORDS = ')
0029      ACCEPT 230, RECSZ
0030      230 FORMAT (I4)

      C
0031      PASS = 1
0032      LCRV = LINEC
0033      FILEN = 0

      C
0034      22  RECNUM = 0
0035      FROMA = FROM + 1

      C
      C
      C
      C
0036      23  RECOUT(1) = 0
0037      RECOUT(2) = OUTTN
0038      FILEN = FILEN + 1
0039      DO 24 I = 1, 7
0040      24  RECOUT(I+2) = 0
0041      RECOUT(10) = 1
  
```

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```

0042      IF (OFF .EQ. 1)  RECOUT(10) = 2
0043      RECOUT(11) = 0
0044      RECOUT(12) = (RECSZ+2) + 6
0045      RECOUT(4) = FILEN
0046      DO 555  I = 1, 398
0047      555 RECOUT(I+12) = 257
      C
0048      DO 666  I = 1, 400
0049      666 CALL SWAB (RECOUT(I))
      C
      C
0050      CALL THRT (9,RECOUT,400)
      C
      C
0051      25 DRC = 1000
0052      START = FROMA
0053      30 CALL SPACE (START,RECIN)
      C
0054      IF (OFF .EQ. 2)  GO TO 1000
      C
0055      IF (FLAG .EQ. 1)  GO TO 2005
      C
      C WRITE A RECORD TO DISK SAVE FILE
      C
0056      WRITE (7) RECIN
0057      LINEC = LINEC + 1
0058      DRC = DRC - 1
0059      START = 1
0060      IF (DRC .EQ. 0)  GO TO 2000
0061      IF (LINEC .NE. 0)  GO TO 30
      C
      C
0062      2000 CALL TFILE (8,I)
      C
0063      2005 ILIN = TO - FROM + 1
0064      IF (LINEC .EQ. 0)  ILIN = LCSV
0065      DRC = 1000
0066      START = FROMA
0067      REWIND 7
0068      40 CALL SPACE (START,RECIN)
0069      IF (FLAG .EQ. 1)  GO TO 3500
0070      READ (7) DSKREC
      C
0071      2010 RECOUT(2) = 32767
0072      RECNUM = RECNUM + 1
0073      RECOUT(1) = RECNUM
0074      CALL SWAB (RECOUT(1))
0075      DO 2020, I=1, RECSZ
0076      2020 RECOUT(I+2) = DSKREC(I)
0077      RECOUT(RECSZ+3) = 0
0078      RECOUT(RECSZ+4) = 0
0079      RECOUT(RECSZ+5) = 0
0080      DO 2030 I = 1, RECSZ
0081      2030 RECOUT(I+5+RECSZ) = RECIN(I)
0082      JBWC = (RECSZ+2)+8
0083      RECOUT(RECSZ+2+6) = 0

```

```

0084      REOUT(RFCSZ+2+7) = 0
0085      REOUT(RFCSZ+2+8) = 0
      C
0086      CALL TWRIT (9,REOUT,JRWC)
      C
0087      ILIN = ILIN - 1
0088      DRC = DRC - 1
0089      IF (DRC .EQ. 0) GO TO 3000
0090      START = 1
0091      IF (ILIN .NE. 0) GO TO 40
      C
      C
0092      3000 REWIND 7
0093      IF (LINEC .EQ. 0) GO TO 3400
0094      FROMA = FROMA + 1000
0095      REWIND 7
0096      LCRV = LINEC
0097      IF (PASS .EQ. 2) GO TO 3100
0098      CALL TRWD (8)
0099      GO TO 25
0100      3100 CALL TFILE (A,2)
0101      CALL TFILE (A,1)
0102      GO TO 25
      C
      C
      C
0103      3400 CALL TFILE (A,1)
0104      3500 CALL TFOF (9)
0105      REWIND 7
0106      IF (PASS .EQ. 2) GO TO 4000
0107      PASS = 2
0108      LINEC = TO - FROM + 1
0109      GO TO 22
      C
      C
      C
      C
0110      1000 REOUT(2) = 32767
0111      RECNUM = RECNUM + 1
0112      REOUT(1) = RECNUM
0113      CALL SWAP (REOUT(1))
0114      DO 1010 I=1,RECSZ
0115      1010 REOUT(I+2) = RECN(I)
0116      REOUT(RECSZ+3) = 0
0117      REOUT(RECSZ+4) = 0
0118      REOUT(RECSZ+5) = 0
0119      JRWC = RECSZ+5
      C
0120      CALL TWRIT (9,REOUT,JRWC)
      C
0121      LINEC = LINEC - 1
0122      START = 1
0123      IF (LINEC .EQ. 0) GO TO 1500
0124      CALL SPACE (START,RECN)
0125      IF (FLAG .EQ. 1) GO TO 1500
0126      GO TO 1000

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0127 1500 CALL TEOF (9)
0128 IF (PASS .EQ. 0) GO TO 9000
0129 PASS = PASS + 1
0130 LINEC = TO - FROM + 1
0131 IF (FLAG .EQ. 1) GO TO 22
0132 CALL TFILE (A,1)
0133 FROMA = FROM + 1
0134 GO TO 22

C
C
C
0135 9000 RECOU(1) = OUTTN
0136 DO 9100 I=1,199
0137 9100 RECOU(I) = 0
0138 CALL SWAR (RECOU(1))

C
0139 CALL TWRIT (9,RECOU,200)
0140 CALL TEOF (9)
0141 CALL TRWD (9)
0142 CALL TRWD (8)
0143 REWIND 7

C
C
C
0144 TYPE 9900
0145 9900 FORMAT (1H0,'RIN COMPLETED')
0146 TYPE 9940
0147 9940 FORMAT (1H0,'FURTHER PROCESSING REQUIRED ? ')
0148 ACCEPT 9950, ANS
0149 9950 FORMAT (A21)
0150 IF (ANS .EQ. 'YS') GO TO 1

C
C
C
0151 END

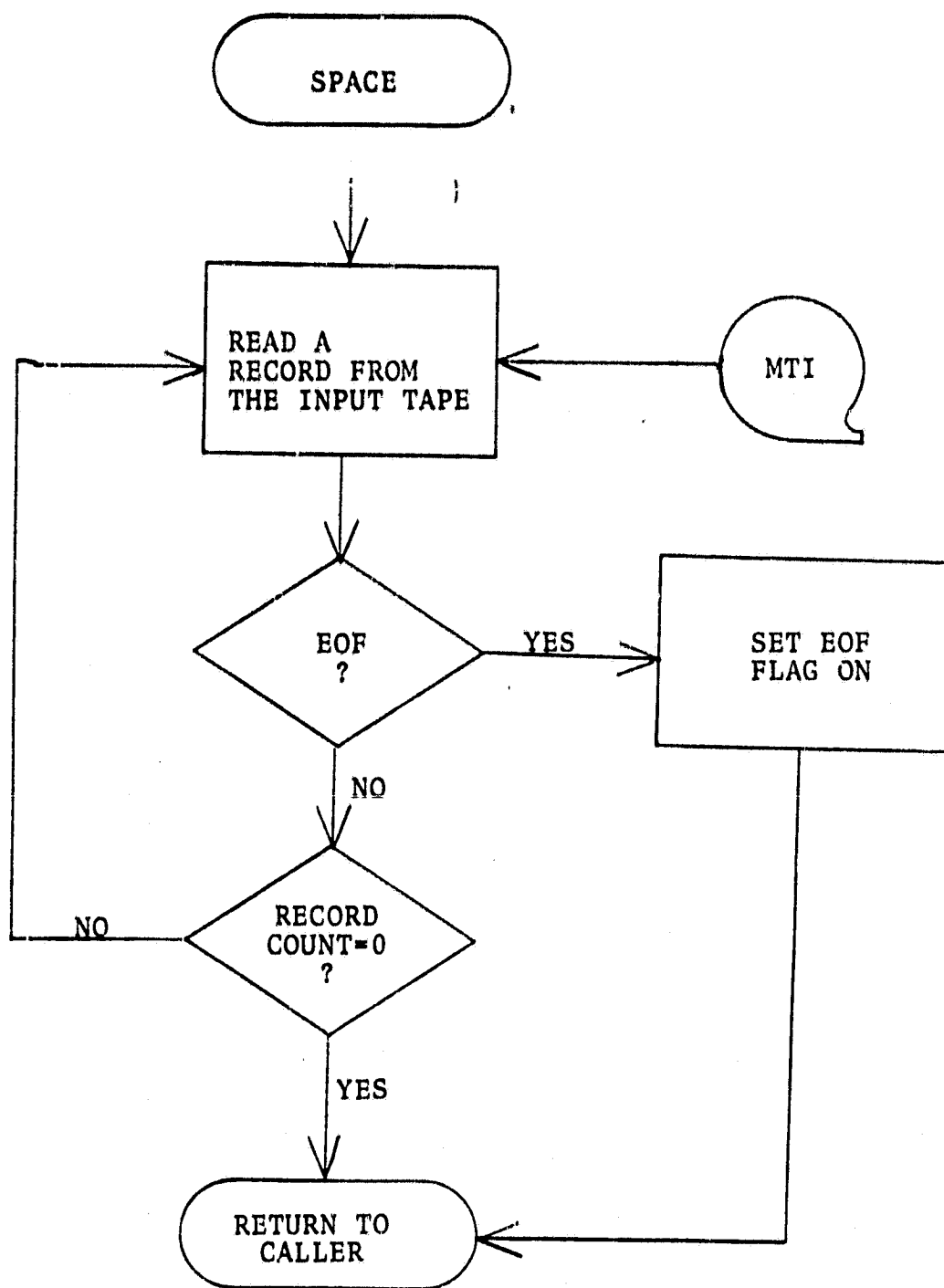
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APPENDIX C





APPENDIX D

0001 SUBROUTINE SPACE (START,RECIN)

C  
C  
C  
C  
C

SPACE INPUT TAPE FORWARD REQUESTED NUMBER OF RECORDS

0002 IMPLICIT INTEGER (A-Z)

0003 COMMON /WORDS/RECSZ,FLAG

0004 COMMON /STATUS/IDWC(2)

0005 DIMENSION RECIN(1000)

C

0006 IBS = RECSZ

0007 10 CALL TREAD (A,RECIN,IBS)

0008 CALL TSTAT (A,IJSTAT,RESOU)

0009 FLAG = 0

0010 IF (IAND(IJSTAT,"200) .NE. 0) GO TO 20

0011 START = START + 1

0012 IF (START .NE. 0) GO TO 10

0013 RETURN

0014 20 TYPE 30

0015 30 FORMAT (1H0,'END-OF-GD-FILE')

0016 FLAG = 1

0017 RETURN

0018 END

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